former is Wisconsin while the latter is apparently Kansan. Professor Todd evidently correlates the deposit with the later Wisconsin when he says:

> This was conclusive evidence that the region had been occupied more or less by timber since the ice had covered the regions, possibly while the second moraine was in process of formation.

The late work of the Iowa geologists, Calvin, Shimek and others, indicates that the underlying blue clay was laid down by the Kansan ice sheet, and hence the fossil remains must be regarded as post-Kansan and pre-Wisconsin.

From this new angle of view the fossils become of great interest. The mollusks were submitted by Professor Todd to Professor R. Ellsworth Call, who recognized the following species.[2]

Limnophysa palustris Say.
Limnophysa decidiosa Say.
Gyraulus parvus Say.
Valvata sincera Say.
Segmentina armigera Say.

But five species are here recorded, although Professor Todd refers to "nearly a dozen species."

In the material submitted by Mr. Over, which is a part of the original lot, fifteen species are recognized, as noted below:

Pisidium compressum Prime.
Pisidium variabile Prime.
Pisidium medianum Sterki.
Valvata tricarinata Say.
Valvata lewisii Currier.
Succinea avara Say.
Physa sp. (immature).
Galba palustris Müll.
Lymnæa stagnalis appressa Say.
Planorbis trivolvis Say.
Planorbis bicarinatus Say.
Planorbis bicarinatus striatus Baker.
Planorbis deflectus Say.
Planorbis parvus Say.
Planorbis exacuous Say.

Two species, *Segmentina armigera* and *Limnophysa* (*Galba*) *decidiosa,* mentioned by Call, were not detected in the material recently examined. Thirteen species are likewise included which were not mentioned by Call, possibly because the material did not contain them. *Valvata sincera* as identified by Call also proves to be *Valvata lewisii.*

The fauna is thus seen to have been large and varied. The deposit was evidently the bed of a large lake or river, and could not have been a tamarack swamp as stated by Professor Todd, because mollusks such as *Valvata tricarinata* and *V. lewisii* do not inhabit such a station. The tamarack log and cones mentioned probably floated from the shore and became buried in the mud. That this fauna lived in or near the present Andes Creek is not at all possible, because such an assemblage of life would scarcely be found in this kind of a habitat.

With just which interglacial stage this biota is to be correlated is not yet clear. If it immediately preceded the Wisconsin, which seems probable, it may be Peorian (post-Iowan); or if it became extinct before this stage it may be the equivalent of the Sangamon (post-Illinoian); if it is to be classed as post-Kansan, as it lies upon the Kansan till, it must be correlated with the Yarmouth stage. In the absence of equivalent loess deposits it is difficult, if not impossible, to place this deposit in its true position in the paleontologic column. A restudy of the Grandview deposits from the modern, multiple glacial standpoint would assist greatly, doubtless, in solving this problem.

My thanks are due to Dr. Bryant Walker and Dr. Victor Sterki for kind assistance in the determination of doubtful material.

FRANK C. BAKER
THE CHICAGO ACADEMY OF SCIENCES

[2] *Op. cit.*, p. 121, footnote. The old momenclature is used.

THE INDIANA ACADEMY OF SCIENCES

THE Indiana Academy of Sciences and the Indiana Conservation Association met in joint session in Indianapolis, October 24–25. Some of the important papers were as follows:

President Donaldson Bodine's address on "How to Increase the Efficiency of the Academy."

"The Flood of March, 1913."

At Terre Haute, Charles R. Dryer.

At Fort Wayne, L. C. Ward.

On the Ohio River in Southeastern Indiana, Glen Culbertson.

On East and West Forks of White River, H. P. Bybee.

"The Selective Action of Gentian Violet in the Bacteriological Analysis," C. M. Hilliard.

"The Vertical Distribution of Plankton in Winona Lake," Glenwood Henry.

"A Test of Indiana Varieties of Wheat Seed for Internal Fungous Infection," George N. Hoffer.

"A Simple Apparatus for the Study of Phototropic Responses in Seedlings," George N. Hoffer.

"Mosses of Monroe County, Indiana, II.," Mildred Nothnagel.

"Observations on the Aquatic Plant Life in White River Following the Spring Flood of 1913," Paul Weatherwax.

"The Occurrence of *Aphanomyces phycophytes* upon the Campus of Indiana University," Paul Weatherwax.

"Food and Feeding Habits of *Unio*," William Ray Allen.

"Oral Respiration in *Amphiuma* and *Cryptobranchus*," H. L. Bruner.

"Respiration and Smell in Amphibians," H. L. Bruner.

"General Outline of Trip of 1913 for the Purpose of Collecting the Fish Fauna of Colombia, S. A.," Charles E. Wilson.

"A Topographic Map of the Terre Haute Area," Charles R. Dryer.

"Center of Area and Center of Population of Indiana," W. A. Cogshall.

"On the Shrinkage of Photographic Paper," R. R. Ramsey.

"A Preliminary Account of an Elaborate Study of the Disintegration of Matter," A. L. Foley.

"Boiling and Condensing Points of Alcohol-water Mixtures," P. N. Evans.

"Race Suicide," Robert Hessler.

"A Psychologist's Investigation in the Field of Crime among Adolescents," R. B. von KleinSmid.

"Agricultural Work in Southern Indiana," C. G. Phillips.

"The Germination of *Arisæma dracontinus*." Lantern. F. L. Pickett.

"The Prothallium of *Camptosorus rhizophyllus*." Lantern. F. L. Pickett.

"Irish Potato Scab as Affected by Fertilizers Containing Sulphates and Chlorides." Lantern. S. D. Conner.

"Newly Discovered Phenomena Connected with the Electric Discharge in Air." Lantern. A. L. Foley.

"The Relation of the Country Life Movement to Conservation," Mrs. Virginia C. Meredith.

"The Conservation of Indiana Soils and Crops," Mr. D. F. Maish.

"The Present Status of Agricultural Education in Indiana," Professor George I. Christie.

"A Sanitary Survey of Indiana Rivers," Dr. Jay Craven.

"The Relation of the Lakes of Northern Indiana to Problems of Flood Control," Dr. Will Scott.

"Municipal Forestry in Indiana," Hon. Charles Warren Fairbanks.

"First Steps in Indiana Forestry," Professor Stanley Coulter.

"Taxation of Forest Lands," Professor H. W. Anderson.

"Forests and Floods," Professor F. M. Andrews.

"Prevention of Infant Mortality as a Factor in Conservation," Dr. J. N. Hurty.

"The Analysis of an Occupation," Professor M. E. Haggerty.

"School Hygiene as a Factor in the Conservation of Human Life," Dr. O. B. Nesbit.

"County Tuberculosis Hospitals as a Factor in the Conservation of Human Life," Dr. James Y. Welborn.

"Playgrounds and Recreation Centers as Factors in the Conservation of Human Life," Dr. W. A. Gekler.

"Public Toilet Facilities, Drinking Fountains and Public Spitting in Relation to the Conservation of Human Life," Professor C. M. Hilliard.

"Possible Dangers from Drilling for Oil and Gas in Coal Measures," Professor Edward Barrett.

"Power Economy and the Utilization of Waste in the Quarry Industry," Mr. G. C. Mance.

A. J. Bigney,
Secretary

THE CONVOCATION WEEK MEETING OF SCIENTIFIC SOCIETIES

The American Association for the Advancement of Science and the national scientific societies named below will meet at Atlanta, Ga., during convocation week, beginning on December 29, 1913.

American Association for the Advancement of Science.—President, Professor Edmund B. Wilson,